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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,267	09/24/2003	Chang Su Ryu	5882P054	6567

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EXAMINER

HERNANDEZ, OLGA

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/671,267

Applicant(s)

RYU ET AL.

Examiner

Olga Hernandez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 November 2004.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-5 is/are rejected.
7) ☒ Claim(s) 6 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/19/04 have been fully considered but they are not persuasive. Applicant argues that the prior art does not teach detecting the brain wave rhythm of 18-26 Hz (i.e. central beta), specifying: the prior art signals are contaminated by eye blink, respiration, or the like. However, the applicant is not claiming such subject matter. Giving different names to waves/signals is not subject for patentability. Regarding the arguments of the A/D converter, omission of element and its function in combination is obvious expedient if remaining elements perform same functions as before. In re Karlson (CCPA) 136 USPQ 184. Further, obtaining the waves from any part of the scalp of a person is just routine skill in the art.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano (2001030886).

As per claims 1 and 4, Hirano teaches a brain wave detector for detecting a central beta rhythm of a driver's brain waves appearing before the driver's movement to step on a brake pedal after the step of determining driving conditions; a brain wave amplifier for amplifying the brain

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waves detected by the brain wave detector; and a controller for sensing the driver's movement for braking by analyzing the brain waves and generating a command for braking the vehicle (abstract). Further, the omission of an element and its function in combination is obvious expedient if remaining elements perform same functions as before. In re Karlson (CCPA) 136 USPQ 184.

Hirano does not teach an A/D converter for converting the brain waves amplified by the brain wave amplifier into a digital data. However, it would have been obvious to one skill in the art to use an A/D in order to convert the signals to digital.

3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano (2001030886) in view of Wolpaw et al (5,638,826).

As per claim 2, Hirano does not teach means to the driver's scalp in order to get the appropriate response and/or signal from the driver. However, Wolpaw teaches it in the abstract. Therefore, it would have been obvious to one skill in the art to combine the aforementioned references in order to utilize brain waves to communicate with the environment.

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano (2001030886) in view of Wolpaw et al (5,638,826), further in view of Altschuler et al (5,840,040).

Neither Hirano nor Wolpaw teaches the electrode being attached to the central region of the driver's scalp. However, Altschuler teaches it in (column 6, lines 55-58 and figure 1). Therefore, it would have been obvious to one skill in the art to combine the aforementioned references in order to utilize signals from the human brain for mental communication and thought control machines.

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5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hirano (2001030886) in view of Kirkup et al (6,175,762).

Hirano does not teach comparing the brain signals with a predetermined threshold and generating a command. However, Kirkup teaches it in column 3. Therefore, it would have been obvious to one skill in the art to combine the aforementioned inventions in order to allow a person to activate an electrical appliance or device through self-control of EEG signals without the training that biofeedback requires.

Allowable Subject Matter

6. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Hernandez whose telephone number is (571) 272-7144. The examiner can normally be reached on Monday through Thursday from 6:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Cuchlinski can be reached on (571) 272-3925. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'OH' followed by a stylized flourish.

Olga Hernandez
Examiner
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